

From glowbugs@theporch.com Thu Apr 4 09:11:29 1996
Return-Path: glowbugs@theporch.com
Received: from uro (localhost.theporch.com [127.0.0.1]) by uro.theporch.com
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Date: Thu, 4 Apr 1996 09:06:56 -0600 (CST)
Message-Id: <199604041506.JAA04735@uro.theporch.com>
Errors-To: ws4s@midtenn.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 150
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
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GLOWBUGS Digest 150

Topics covered in this issue include:

- 1) BA/GB Net Fist Function report
by rdkeys@csemail.cropsci.ncsu.edu
- 2) DeMaw's sweep tube articles
by Jeff Duntemann <jeffd@coriolis.com>
- 3) Good Listening/Marker/RX testing QRG
by rdkeys@csemail.cropsci.ncsu.edu
- 4) Re: Sweep tube amp stories wanted
by "Barry L. Ornitz" <u856010@eastman.com>
- 5) Re: Sweep tube amp stories wanted
by dgf@netcom.com (David Feldman)
- 6) CW
by Jeff Duntemann <jeffd@coriolis.com>
- 7) Re: BA/GB Net Fist Function report
by rdkeys@csemail.cropsci.ncsu.edu
- 8) The Tube that Looks Like a Fireplug
by Jeff Duntemann <jeffd@coriolis.com>
- 9) K1JJ's QRP-AM net on Sundays
by Andy Wallace <wallace@mc.com>
- 10) Hello there!
by herr@ridgecrest.ca.us (Michael Herr)
- 11) Re: The Tube that Looks Like a Fireplug
by mjsilva@ix.netcom.com (michael silva)
- 12) Re: Sweep tube amp stories wanted
by mjsilva@ix.netcom.com (michael silva)
- 13) Re: The Tube that Looks Like a Fireplug
by Henry van Cleef <vancleef@bga.com>

turned away. We has a' started a fine and goodly thing 'ere mateys!

QRG 7025 QTR 0100/0200Z

QRG 3579.545 QTR 0300/0400/0500/0600Z

See's ye there, byes the bye..... fer a fine BA/GB watch!

73/ZUT DE NA4G/Bob UP

Date: Wed, 3 Apr 1996 09:00:22 -0700
From: Jeff Duntemann <jeffd@coriolis.com>
To: glowbugs@theporch.com
Subject: DeMaw's sweep tube articles
Message-ID: <199604031600.JAA22006@ns2.indirect.com>

I dug around in my archives last night and found two articles of interest to sweep tubers, both by Doug DeMaw:

"Some Ground Rules for Sweep Tube Linear Amplifier Design", July 1968, p.30.
DeMaw discusses the 6KD6 in detail and presents a grounded-grid linear using
4 of the tubes. The article is mostly an exposition of a single design problem
and is not especially general.

"Some Thoughts About TV Sweep Tubes", February 1980, p. 11.
Here, he discusses several different tubes, and recaps the linear from July '68.
More of a design piece, and has tables of operating parameters for several husky
color TV sweep tubes.

Both pieces are well worth copying out for your files. Still, with 6146s as cheap as they are (on a par with most of the huskier sweep tubes) I see little reason to go with the sweepers and the problems they embody.

--73--

--JD--

Date: Wed, 3 Apr 1996 11:32:40 -0500 (EST)

From: rdkeys@csemail.cropsci.ncsu.edu
To: boatanchors@theporch.com, glowbugs@theporch.com
Cc: rdkeys@csemail.cropsci.ncsu.edu ()
Subject: Good Listening/Marker/RX testing QRG
Message-ID: <9604031632.AA102949@csemail.cropsci.ncsu.edu>

I was perusing the bands last weekend, after the sad demise of WLO from the CW broadcasting biz, looking for good background music for playing on the boatanchors and glowbug regenerators. The following may be of interest as some of the last remaining CW broadcasts:

STATION	BCST RUN	QRQ	QTR	QRG
-----	-----	-----	-----	-----
WCC	daily tfc list/wx	25wpm	1650Z	6376, 8630
WCC	sunday ARA free press	25wpm	1750Z	6376, 8630
VCS	daily tfc list/wx	25wpm	1500Z	6491.5, 8440
WNU	daily tfc list/wx	30wpm	1550Z	8570 khz
WLO	daily tfc list/info	31wpm	0200Z	4343, 6416, 8514

All of the above make great background music for listening to while playing with or testing out your BA/GB receivers. Most are running several KW and usually have fairly strong signals.

It seems noone does any nite CW broadcasts anymore, that I can find.

If anyone knows of any others lurking about that are good to listen to please QSP NA4G with the info, and I will report a followup to the lists.

73/ZUT DE NA4G/Bob

.... we's a'gotta keeps de ol' bottleburner receivers percolatin' wid dat fine ol' CW background sweetmusicks, ye knows.....(:+}}.....

Date: Wed, 3 Apr 1996 11:24:05 -0500 (EST)
From: "Barry L. Ornitz" <u856010@eastman.com>
To: glowbugs@theporch.com
Cc: dgf@netcom.com
Subject: Re: Sweep tube amp stories wanted
Message-ID: <Pine.ULT.3.91.960403104908.24863C-100000@dua150.kpt.emn.com>

On Wed, 3 Apr 1996, David Feldman, WB0GAZ, wrote:

> I'm looking for people's experiences with sweep tube amps, designs, etc.

Probably the best information about sweep tubes was from a "Ham Radio Magazine" article by Bill Orr (W6SAI of Eimac) called something like "Full Blast Operation of Sweep Tubes". Similar information can be found in Bill's "Radio Handbook" of the 1970's and later.

The ONLY positive point about sweep tubes was that the tubes were cheap in their day. While many had high short-term plate dissipation, their average dissipation was rather low (17 to 33 watts). Since they were designed for basically pulse service, this makes sense. I had a friend who bought a Swan 500C but was a little slow on the draw in tuning the final. He showed me tubes with sucked-in envelopes. Some of the most recent sweep tubes (6LQ6, 6MJ6) had a pyrex glass envelope making them slightly more resistant to this.

Some sweep tubes had their cathode connection on the top of the tube structure giving extremely long cathode leads and high cathode inductance. Such tubes would never operate well over 40 meters. Because the tubes had a rather high power gain, they tended to be good oscillators - usually at frequencies other than what you were trying to transmit on!

Neutralization is a MUST.

Getting matched tubes will be an extreme problem today. When they were cheap, you could buy 25 or so and get about 9 or 10 matched pairs for rigs like the Drakes, Yaesu's, etc. Matched trios were even more difficult and getting four to eight matched tubes for a kilowatt was difficult even then. With the scarcity of these tubes today, you either have to buy matched tubes or really spend a lot getting enough to match with. Without matched tubes, one tube (the one with the highest transconductance) takes most of the load, quickly destroying itself. The others soon follow.

For power amplifier design today, I would avoid them like the plague. In fact, for SSB use you need extremely low intermodulation distortion. This is best achieved with a SINGLE tube. Popular as they may be, a pair of parallel 3-500's is no match for a single 3-1000 in linearity. [However, push-pull operation is the exception. Unless you use plug-in coils, multiband operation of a push-pull amplifier is difficult.]

If you are trying to boost a 5 or 10 watt CW homebrew transmitter to the 50 to 100 watt level, I would go with someone else's suggestion and use 6146 tubes. These are still readily available and popular. For a first-time builder of a kilowatt linear, I would suggest a pair of 813's or perhaps the 3-400/3-500 series. Alternately 4-400's are sometimes available used from broadcast stations, as are 833's. These can also be used. Bill Orr's handbook gives some circuits as do many older ARRL

Handbooks.

I would strongly avoid using the newer 8877/3CX1500B and other similar tubes if you are a relative beginner to amplifier design and construction. These tubes have a very high power gain and are useable through UHF frequencies, thus making them very likely to burn out with parasitic oscillations. They are not forgiving of abuse either.

Unless you happen to have an old commercial amplifier that used sweep tubes, you should avoid them unless you have a virtually unlimited supply.

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

Date: Wed, 3 Apr 1996 08:47:31 -0800
From: dgf@netcom.com (David Feldman)
To: glowbugs@theporch.com
Subject: Re: Sweep tube amp stories wanted
Message-ID: <199604031647.IAA28403@netcom3.netcom.com>

Barry L. Ornitz <u856010@eastman.com> writes:

>
>On Wed, 3 Apr 1996, David Feldman, WB0GAZ, wrote:
>
>> I'm looking for people's experiences with sweep tube amps, designs, etc.
>
>Unless you happen to have an old commercial amplifier that used sweep
>tubes, you should avoid them unless you have a virtually unlimited supply.

I agree for sure. I didn't explain why I was interested in the topic - I have several existing sweeptube amps (that work fine) and got started in ham radio in the early 70s when these were popular. My goal in the posting was/is to get an understanding of what was going on then, particularly with some of the crazy designs like the swan 700cx (pair 8950's), the galaxy amp that had 10 (?) tubes, etc...

I appreciate the postings and e-mails so far and am saving them - they make some really interesting reading!

I guess you would call it a nostalgia kick...

73 Dave WB0GAZ dgf@netcom.com

Date: Wed, 3 Apr 1996 09:19:46 -0700

From: Jeff Duntemann <jeffd@coriolis.com>
To: glowbugs@theporch.com
Subject: CW
Message-ID: <199604031619.JAA12734@ns1.indirect.com>

The first CW I ever heard was WWV's ID, back in the early Sixties. Been a long time gone, and I miss it...

--73--

--JD--

Date: Wed, 3 Apr 1996 13:44:36 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: pbock@melpar.esys.com (Paul H. Bock)
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com,
Subject: Re: BA/GB Net Fist Function report
Message-ID: <9604031844.AA103120@csemail.cropsci.ncsu.edu>

> Yes, K53 clatters a bit, but who cares?

Actually, the clattering of the relays is musick to a chop's ears!
It keeps ya abreast o' how yer rig be a'workin!

Back in the early days (1920's and 30's) my OM used to read the relays on his WAR circuit rigs (BIGG ol military rigs at Ft. Sam Houston) to keep up with the goins-on of the ops and to keep tabs on which rig to bring up on what frequency. All this several miles away from where the operator was actually sitting.

Relays make good sidetone generators, when properly resonating, and you can tell right off, if something is amiss, because the timbre of the clackety-clack goes sour.

Note..... some relays have a much better musical sound and timbre than others. The GE relays used in the BC-191/BC-375 and TCM/TCU gear make a great clicky sound. The ones in the TBW just sound a hard clunk. The ones in the TCS make in intermediate hard clunk, with some stacatto. The ones in the ARC-5 are dainty harpsichord musick by comparison..(:+}}..

All ye fellers wat's thought dem thar relays was noisy.....

..... nay, it be sweetmusick ta de ol' 'eadbone noggin!

73/ZUT DE NA4G/Bob

Date: Wed, 3 Apr 1996 13:56:29 -0700
From: Jeff Duntemann <jeffd@coriolis.com>
To: glowbugs@theporch.com
Subject: The Tube that Looks Like a Fireplug
Message-ID: <199604032056.NAA04818@bob.indirect.com>

Hi gang--

About five years ago I bought a quantity of 829Bs and 832As at the Flagstaff hamfest here, for what amounted to about fifty cents each. I love the way they look to the extent that I used several of them as Christmas tree ornaments on our company Christmas tree, which did nothing to disperse my eccentric reputation here.

I have a newbuild boatanchor coming together in a genuine old-old stock Fifties wrinkle-finish cabinet: A 160, 80, and 40M CW box with an 829B final running both sections in parallel. The exciter is a 5763 VX0 (assuming I can get it to work well on all three bands) working right into the 829B. My calculations indicate I'll get sufficient drive.

But then again, I've never used the part before, at HF, VHF, or anywhere else. Anybody have any thoughts on the 829B at HF? I'm being careful about parasitics, as the part has gain well into UHF. But most designs use the sections in push-pull. Do they parallel well? Any other wisdom? I hope to get 80 or 90 watts input.

(I even have the little aluminum plate-cap heat sinks, which make the tube look marvelously Deco like something out of a Flash Gordon movie. I love it.)

And is the 832A the only transmitting tube that's wider than it is high? (Those little Western Electronic doorknob tubes don't count!)

--73--

--JD/KG7JF
Scottsdale, Arizona

Date: Wed, 3 Apr 96 17:12:54 EST
From: Andy Wallace <wallace@mc.com>
To: glowbugs@theporch.com
Subject: K1JJ's QRP-AM net on Sundays

Message-ID: <9604032212.AA08384@kali>

Tom has gotten so swamped with mail that I won't pass on his email address here!

Anyway, he has started a homebrew QRP-AM net on 3885 on Sunday afternoons at 4 p.m. Eastern. (Moved it later for the Summer.) Showing has been very good and people have been homebrewing plate-modulated 6AQ5 rigs on baking tins.

Sounds like perfect fodder for a Glowbug project or two, if you can avoid making the only jack for the Key. <grin>

73,
--Andy
wallace@mc.com

P.S. Most of the homebrewers will send you a schematic of the rig for a SASE and some of them will be making these diagrams available at the Rochester NH flea coming up on 5/10-11.

Date: Wed, 3 Apr 1996 21:00:46 -0800
From: herr@ridgecrest.ca.us (Michael Herr)
To: glowbugs@theporch.com
Subject: Hello there!
Message-ID: <v01530500ad89f327eae5@[199.120.150.96]>

Hi there, can someone give me some info on the glowbugs and how to register
72
Mike WA6ARA

Date: Wed, 3 Apr 1996 21:48:07 -0800
From: mjsilva@ix.netcom.com (michael silva)
To: glowbugs@theporch.com
Subject: Re: The Tube that Looks Like a Fireplug
Message-ID: <199604040548.VAA16155@dfw-ix10.ix.netcom.com>

Jeff D. wrote:

>Anybody have any thoughts on the 829B at HF? I'm being careful about
>parasitics, as the part has gain well into UHF. But most designs use
>the sections in push-pull. Do they parallel well? Any other wisdom?

This probably isn't too helpful, but in the RadLab series there are a number of pulse driver circuits where the two 829 sections are used in parallel. Don't see why there should be any problems in your PA (famous last words?).

73,
Mike, KK6GM

Date: Wed, 3 Apr 1996 21:55:10 -0800
From: mjsilva@ix.netcom.com (michael silva)
To: glowbugs@theporch.com
Subject: Re: Sweep tube amp stories wanted
Message-ID: <199604040555.VAA18688@dfw-ix3.ix.netcom.com>

Barry L. Ornitz WA4VZQ wrote:
>...for SSB use you need extremely low intermodulation distortion.
>This is best achieved with a SINGLE tube. Popular as they may be, a
>pair of parallel 3-500's is no match for a single 3-1000 in linearity.
> [However,
>push-pull operation is the exception. Unless you use plug-in coils,
>multiband operation of a push-pull amplifier is difficult.]

Barry, could you talk a little more about why the single tube is better, and why the exception for push-pull (just the even-harmonic cancelling, or is there more?). Thanks for all the good info.

73,
Mike, KK6GM

Date: Thu, 4 Apr 1996 02:51:35 -0600 (CST)
From: Henry van Cleef <vancleef@bga.com>
To: jeffd@coriolis.com
Cc: glowbugs@theporch.com
Subject: Re: The Tube that Looks Like a Fireplug
Message-ID: <199604040851.CAA22558@zoom.bga.com>

As Jeff Duntemann said

>
> Hi gang--
>
(on 829B tubes)

> But then again, I've never used the part before, at HF, VHF, or anywhere
> else. Anybody have any thoughts on the 829B at HF? I'm being careful about
> parasitics, as the part has gain well into UHF. But most designs use the
> sections in push-pull. Do they parallel well? Any other wisdom? I hope to
> get 80 or 90 watts input.

The 829B is simply two 807's in one bottle. Maximum plate dissipation
is rated lower because it's harder to get the heat out of the bottle
with two of them under one roof. However, general circuit
considerations are the same as for 807's.

If you are going to parallel the two sections, some Q-killer resistors
between the grids and plates are in order.

>
--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

End of GLOWBUGS Digest 150
